



## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Atty. Docket No. 26068-27B

Charles Ahn et al.

Serial No.: 10/582,813

Art Unit: 2818

Filed: June 14, 2006

Title: Magnetoelectronic Devices Based on Colossal Magnetoresistive Thin Films

Commissioner for Patents  
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## INFORMATION DISCLOSURE STATEMENT

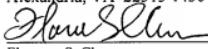
Pursuant to Sections 609 and 707.05(b) of the MPEP and 37 CFR 1.97-1.99, the attached form PTO-1449 lists documents that may be pertinent to the invention as claimed in the above-identified application.

This Information Disclosure Statement is being filed before the mailing date of a first Office action on the merits and therefore, no fee is believed to be due. In the event that a fee is due, please charge Deposit Account No. 50-0447 to cover these fees. The citation of these documents should not be construed as a representation that a thorough search has been made, or that other, more pertinent material is not available.

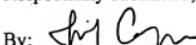
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<b>INFORMATION DISCLOSURE STATEMENT FORM FOR PATENT APPLICATION (FORM PTO-1449) (Substitute)</b>			Docket No.: 26068-27B	Serial No.: 10/582,813		
			Applicant: Charles Ahn et al.			
			Filing Date: 6/14/06	Group: 2818		
<b>U.S. PATENTS</b>						
Initials	Patent Number	Issue Date	Name	Class	Sub-class	Filing date
/DHN/	5,650,958	7/22/97	Gallagher et al.			
	5,734,605	3/31/98	Zhu et al.			
	6,646,948	11/11/03	Stence et al.			
	6,654,278	11/25/03	Engel et al.			
	6,714,442	3/30/04	Nahas			
	6,818,961	11/16/04	Rizzo et al.			
	6,822,838	11/23/04	Lin et al.			
	2004/0070038 A1	4/15/04	Tang et al.			
	2004/0114283 A1	6/17/04	Felser			
	2004/0164840 A1	8/26/04	Xiao et al.			
<b>FOREIGN PATENT DOCUMENTS</b>						
Initials	Document Number	Date	Country	Name		Translation? Yes/No/n/a
<b>OTHER DOCUMENTS (Title, Author, Date, Pages, Etc., if known)</b>						
/DHN/	Bridging The Gap Between AMR, GMR, and Hall Magnetic Sensors, Popovic et al. (unknown date)					
	New Galvanomagnetic Effect, Goldberg et al., Physical Review, Vol. 94, No. 5, pp. 1121-1125, June 1954.					
	Galvanomagnetic Effects in Oriented Single Crystals of n-Type Germanium, Bullis, Physical Review, Vol. 109, No. 2, pp. 292-301, January 1958.					
	Spin valves with interlayer coupling domain biasing, Lu et al., Applied Physics Letters, Vol. 80, No. 17, pp. 3156-3158, April 2002.					
	Simultaneous detection of perpendicular and in-plane magnetization component in a [Co/Pd] <sub>n</sub> perpendicular magnetic recording media, Das et al., Journal of Applied Physics, Vol. 93, No. 10, pp. 8098-8100, May 2003.					
	Ferromagnetic domain structure and hysteresis of exchange bias in NiFe/NiMn bilayers, Li et al., Physical Review B, Vol. 65, 134421 (1)-(5). (2002)					
	Magnetoresistance and planar Hall effects in submicron exchange-coupled NiO/Fe <sub>19</sub> Ni <sub>81</sub> wires, Nemoto et al., Applied Physics Letters, Vol. 74, No. 26, pp. 4026-4028, June 1999.					
	Anisotropic magnetoresistance and planar Hall effect in magnetic metal-insulator composite films, Zhao et al., J. Appl. Phys., Vol. 81, No. 8, pp. 5527-5529, April 1997.					
	Low-field magnetic sensors based on the planar Hall effect, Schuhl et al., Appl. Phys. Lett., Vol. 66 No. 20, pp. 2751-2753, May 1995.					
	Giant Planar Hall Effect in Epitaxial (Ga,Mn)As Devices, Tang et al., Physical Review Letters, Vol. 90, No. 10, pp. 107201 (1)-(4), March 2003.					
	Microscopic mechanisms of giant magnetoresistance, Vouille et al., Physical Review B, Vol. 60, No. 9, pp. 6710-6722, September 1999.					
/DHN/	Large Magnetoresistance at Room Temperature in Ferromagnetic Thin Film Tunnel Junctions, Moodera et al., Physical Review Letters, Vol. 74, No. 16, pp. 3273-3276, April 1995.					

/DHN/	Spintronics: A Spin-Based Electronics Vision for the Future, Wolf et al., Science, Vol. 294, pp. 1488-1495, November 2001.
	Giant magnetoresistance of manganese oxides with a layered perovskite structure, Moritomo et al., Letters To Nature, Vol. 380, pp. 141-144, March 1996.
	Low-field magnetoresistance in tetragonal $\text{La}_{1-x}\text{Ca}_x\text{MnO}_3$ films, O'Donnell et al., Physical Review B, Vol. 55, No. 9, pp. 5873-5879, March 1997.
	Magnetic anisotropy and strain states of (001) and (110) colossal magnetoresistance thin films, Berndt et al., Applied Physics Letters, Vol. 77, No. 18, pp. 2903-2905, October 2000.
	Nano-junction: Spin-dependent tunneling and Coulomb blockade, Feltin, Online Nanotechnologies Journal, Vol. II, Issue 2, pp. 1-9, March 2001.
	Micromagnetic and magnetoresistance studies of ferromagnetic $\text{La}_{0.83}\text{Sr}_{0.13}\text{MnO}_{2.98}$ crystals, Popov et al., Physical Review B, Vol. 65, 064426(1) – (8), 2002.
	Magnetic anisotropy of ferromagnetic $\text{La}_{0.7}\text{Sr}_{0.3}\text{MnO}_3$ epitaxial thin films: Dependence on temperature and film thickness, Steenbeck et al., Applied Physics Letters, Vol. 80, No. 18, pp. 3361-3363, May 2002.
	Magnetic switching and magnetoresistance in nanoscale spin tunnel junctions, Urech et al., Journal of Applied Physics, Vol. 92, No. 10, pp. 6062-6065, November 2002.
	Room temperature ultrahigh magnetoresistance in $\text{La}_{0.67}\text{Sr}_{0.33}\text{MnO}_3$ thin films with ordered nanometer structure, Zhang et al., Solid State Communications, Vol. 131, pp. 271-274, 2004.
	Magnetoresistive Sensors, Hauser et al., Talk: Workshop "Preparation, Properties, and Application of Thin Ferromagnetic Films", Wien; 06-15-2000 - 06-16-2000; in: "Proceedings of the Workshop 'Preparation, Properties, and Application of Thin Ferromagnetic Films'", K. Riedling (ed.); Institut für Industrielle Elektronik und Materialwissenschaften, TU Wien (2000), pp. 15 - 27.
/DHN/	Closing In On The Mystery Of Colossal Magnetoresistance, Preuss, Sciencebeat, July 2001.
Examiner's Signature:	/Đào H Nguyễn/
	Date Considered: 10/22/2008
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